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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/655,214	09/05/2003	Tatsuhiko Takahashi	Q77275	6987

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EXAMINER	
CORRIGAN, JAIME W	
ART UNIT	**PAPER NUMBER**
3748	

DATE MAILED: 09/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/655,214	TAKAHASHI, TATSUHIKO	
	Examiner	Art Unit	
	Jaime W Corrigan	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *05 September 2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Kato et al. (PN 5,664,529).

Regarding claim 1 Kato et al. discloses crank angle detection means for generating a crank angle position signal corresponding to a rotational angle of a crank shaft in an internal combustion engine (See Figure 1 (80). (1a)); cam angle modifying means (See Figure 2 (25)) for modifying at least a relative position of a crank shaft and a cam shaft for one of air intake and gas exhaust; cam angle detecting means (See Figure 1 (78)) for detecting a cam angle modified by the cam angle modifying means; drive (See Figure 2 (12)) means for driving the cam angle modifying means; target value calculating means (See Figure 1 (80), for calculating a target (See Column 9 Lines 41-60) value depending on an operation state of the internal combustion engine; cam angle control means for controlling the cam angle detected by the cam angle detecting means to coincide with the target value calculated by the target value calculating means (See Figure 1 (80), Column 9 Lines 41-67, Column 10 Lines 1-3); learning means for learning a control signal outputted to the drive means at a time when

the target value and the cam angle substantially coincide (See Column 10 Lines 39-63, Column 11 Lines 40-65); and failure detecting means (See Column 12 Lines 32-67, Column 13 Lines 1-2) for detecting a failure of the cam angle modifying means, wherein the failure detecting means modifies (See Column 13 Lines 3-58) a failure detection condition according to whether or not learning is completed by the learning means.

Regarding claim 2 Kato et al. discloses the failure detecting means modifies a duration until the failure is detected, according to whether or not the learning is performed by the learning means as the failure detection condition (See Column 13 Lines 3-58).

Regarding claim 3 Kato et al. discloses the failure detecting means sets the duration until the failure is detected to be longer before than after the learning is performed by the learning means (See Column 17 Lines 48-67, Column 18 Lines 1-3).

Regarding claim 4 Kato et al. discloses the failure detecting means uses the cam angle detected by the cam angle detecting means as the failure detection condition (See Column 12 Lines 32-67, Column 13 Lines 1-2).

Regarding claim 5 Kato et al. discloses the failure detecting means uses the target value calculated by the target (See Column 9 Lines 41-60) value calculating

means and the cam angle detected by the cam angle detecting means, as the failure detection condition (See Column 12 Lines 32-67, Column 13 Lines 1-2).

Regarding claims 6, 7, 9 Kato et al. discloses the failure detecting means (See Column 12 Lines 32-67, Column 13 Lines 1-2) sets the duration (See Column 17 Lines 48-67, Column 18 Lines 1-3) until the failure is detected to be longer before than after the learning is performed by the learning means (See Column 17 Lines 48-67, Column 18 Lines 1-3).

Regarding claim 8 Kato et al. discloses the failure (See Column 12 Lines 32-67, Column 13 Lines 1-2) detecting means uses a differential between the target (See Column 9 Lines 41-60) value calculated by the target value calculating means and the cam angle detected by the cam angle detecting means, as the failure detection condition.

Regarding claim 10 Kato et al. discloses the learning means holds a learning (See Column 10 Lines 39-63, Column 11 Lines 40-65) value even after an ignition (See Column 10 Lines 25-38) switch is turned off .

Regarding claim 11 Kato et al. discloses when the learning (See Column 10 Lines 39-63, Column 11 Lines 40-65) by the learning means is not performed, failure

(See Column 12 Lines 32-67, Column 13 Lines 1-2) detection by the failure detecting means is not performed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kato et al. (PN 5,715,779), Shinojima (PN 5,333,577) disclose similar timing devices.

Any inquiry concerning this communication from the examiner should be directed to Examiner Jaime Corrigan whose telephone number is (703) 308-2639. The examiner can normally be reached on Monday - Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas E. Denion, can be reached on (703) 308-2623. The fax number for this group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0861.

JC

Jaime Corrigan
Jaime Corrigan
Patent Examiner

September 20, 2004

Art Unit 3748

Thas Denion
THOMAS DENION
SUPERVISORY PATENT EXAMINER
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